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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.ejcts.2008.05.014.

Editorial comment

Authors have analyzed the substantial experience of Hannover group with ascending aortic cannulation in that challenging situation, the acute type A dissection [1]. They have utilized the conventional cannulation and suture fixation in the extremely fragile ascending aorta. This represents an action which many surgeons would be reluctant to carry out, given the weakness of the aortic wall in acute dissection. The aorta might spontaneously rupture at any moment in the first hours after onset of dissection, and can be often observed to ooze blood when the pericardium is opened. The achieved results are impressive, although the 30-day mortality of 15% falls into the middle range, and lower mortalities have been reported in recent years with subclavian cannulation and other techniques [2—4]. Authors have performed this cannulation in 122 patients in more than 6 years although they do not mention if this was a consecutive series. Authors cite another 28 patients with acute dissection, when the femoral cannulation was utilized: does this mean that only 19% of all acute type A were deemed unsuitable for direct cannulation of the aorta? Furthermore, it would be of interest to readership to know if the authors experienced some technical problems during cannulation itself (bleeding, unsuitability of the aorta) and had to revert to other modes of perfusion (femoral, subclavian or innominate artery cannulation). Only three such cases are mentioned in the report, which yields a very impressive success rate of ascending aortic cannulation.

The technique described by the authors necessitates, although not explicitly stated in the text, and can be deducted from their description of surgical technique, — placing the aortic cross-clamp on the dissected ascending aorta during the early cooling period. This is an action which many surgeons would try to avoid, because the cross-clamp application might cause additional lesion in an already weakened aortic wall, with further downstream dissection. Distal anastomosis is performed during continuous antegrade cerebral perfusion, which necessitates the introduction of two cannulae into the innominate and left carotid artery, which in turn have to be replaced by the graft cannulation after completion of the distal anastomosis; all maneuvers which can be avoided by simple subclavian perfusion.

Commendable is the authors' monitoring technique, with pressures in both radial arteries and femoral artery, supplemented by the bilateral cerebral oxygen saturation monitoring. This must nowadays be considered a must in surgery of the acute ascending dissection. In spite of these precautions, and with the described use of corrective measures during surgery, they experienced an overall incidence of neurologic complications of 29%; 12% of them classified as permanent deficits, and contributing to early death in 11% of all patients with neurological dysfunction. These results closely parallel the other reports of surgery of acute type A [5]. For a more meticulous analysis it is, in the opinion of this reviewer, not sufficient to report 30-day mortality, because many patients are transferred to chronic care facilities, where their later demise might escape the notice of surgeons involved in primary care. This is the main reason why more extended follow-up is stipulated in new 'Guidelines for Reporting Mortality and Morbidity after Cardiac Valve Interventions' [6]. Therefore, a more extended outlook (e.g. 3-month survival) would be welcome when assessing the validity of the ascending aortic cannulation.

I can only concur with the authors quoting a previous study by Ennker and co-workers [7] that 'it is too early for a general recommendation concerning the best cannulation site'. Present study shows that you can cannulate the ascending aorta in surgical correction of an acute type A dissection, but the question remains: should you?

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